encountered in washing the clothes soiled with the dejections of cholera patients. The correctness of the position of Petenkofer as to the influence in the production of cholera by soils having a wet substratum is by no means established. Under the same conditions as to soil in different localities, the cholera has not appeared. Under the conditions of soil which have been assumed as those opposed to the occurrence of cholera, the disease has been known to prevail to a great extent and in its severest form. Voltz considers, therefore, that a porous wet soil is to be viewed only as one of the exciting causes of cholera, the same as impure water for drinking, crowded localities, poverty, uncleanliness, bad food, intemperance, etc.—*Centralblatt f. d. Medicinisch. Wissenschaften*, June, 1868. D. F. C.

32. *Ascending and Descending Breathing: its Value as a Symptom and its Mechanism.*—The peculiar irregularity of breathing referred to in this paper was first described by Dr. Cheyne. The early cases in which the symptom was observed were all cases of fatty degeneration of the heart, and it was supposed to be a symptom pathognomonic of that disease. It was thus described by Dr. Stokes. Among the indications of the malady he says there sometimes occurs "a form of respiratory distress peculiar to this affection, consisting of a period of apparently perfect apnœa, succeeded by feeble and short inspirations, which gradually increase in strength and depth until the respiratory act is carried to the highest pitch of which it seems capable, when the inspirations, pursuing a descending scale, regularly diminish until the commencement of another apnœal period." Other cases where this symptom was observed, however, occurred in which the heart was found to be free from fatty degeneration, but the left ventricle was found hypertrophied in consequence of valvular or arterial disease. This condition has hitherto generally been associated by writers with a weak state of the right ventricle, or attributed to some perverted action of the nervous centres. Dr. LITTLE offers a new explanation: "In health the right and left ventricles, though differing so much in the thickness of their walls, are equally competent for their duties; the right ventricle is able to fill the pulmonary capillaries as thoroughly as the left one, with the aid of the other forces which contribute to the circulation, fills the systemic. But if an abnormal burden is imposed on the left, if rigid valves narrow its outlet, or permit the blood it discharges at each systole to fall back into its cavity, or if the arterial coats, their elasticity destroyed by disease, no longer help the heart; if the aorta, instead of taking charge of each wave of blood as it leaves the ventricle, and propelling it onward by the steady recoil of its walls, is permanently dilated, and allows each portion of blood to remain in its ascending trunk, and so to impede the entrance of that which follows—under any of these conditions the left heart, however hypertrophied, may be quite unable to rid itself of the blood as rapidly as it is supplied to it by the right ventricle. Blood would, therefore, accumulate in the left auricle, in the pulmonary veins, and in the capillaries of the lungs. That blood having already absorbed as much oxygen as it required, would fail to produce that impression on the ultimate filaments of the pneumogastric which black blood does, and which impression is converted by the nervous centres into the motor impulse which produces breathing. Breathing would, therefore, cease; and inasmuch as the respiratory act seems to assist in carrying the blood to the left side of the heart, it would no longer be so overstimulated by fresh supplies, and its contractions would become less frequent and more regular. After a few systoles, however, it would succeed in discharging the red blood collected in its cavities to such an extent that they could receive some of that which lay in the pulmonary veins and lungs. Space being thus gained, the black blood which the pulmonary artery contained would reach the capillaries of the lung in amount proportionate to that of the arterial which had gone forward, and sufficient air would be drawn into the chest to aërate so much blood. That very act would carry forward a still larger charge of arterial blood to the left side, and make room for the reception, by the lungs, of a still further increase of venous blood, and, as a consequence, a still deeper inspiration would follow, and the deepest would occur when the largest quantity of venous and the smallest quantity of arterial lay in the lungs. The red blood,

reaching the left heart, would excite it to those frequent and irregular contractions which accompany the respiratory distress, but, frequent and irregular, they would be also ineffectual, red blood would begin again to accumulate in the left heart, the pulmonary veins, and the lungs, till at last these capillaries would contain little else, and the exciting cause of inspiration, the venous blood, being no longer present, the act itself would again cease. Precisely similar conditions might, it seems to me, be supplied by fatty degeneration, for if it were—as I believe is often the case—somewhat more advanced in the left than in the right ventricle; or if, in addition to fatty degeneration, disease of the valves or atheromatous deposit in the aorta were present, the balance between the two sides of the heart would be destroyed. In Dr. Cheyne's original case, indeed, it is mentioned that the aorta was studded with steatomatous and earthy concretions."—*Brit. and For. Med.-Chir. Rev.*, October, 1868, from *Dublin Quart. Journ. Med. Sc.*, August, 1868.

33. *Spindle-shaped Enlargement of the Œsophagus.*—H. V. Luschka describes in *Virchow's Archiv.*, xlii., a somewhat unique case of enlargement of the œsophagus unconnected with contraction of the cardiac orifice of the stomach. The patient, a woman fifty years of age, had possessed from her fifteenth year the power of ejecting voluntarily the contents of her stomach. After death it was found that her œsophagus measured forty-six Cntr.; the normal length being twenty-nine Cntr. Its medium circumference was fourteen and a half Cntr. while at the seat of enlargement it measured thirty Cntr. in circumference. Its muscular coat exhibited a considerable degree of hypertrophy; the mucous coat presented the evidence of its having been the seat of a high grade of catarrh.—*Centralblatt f. d. Medicinisch. Wissenschaften*, May. 1868.
D. F. C.

34. *Atrophy of the Heart.*—The following general results are presented by Dr. N. Finn, of the Pathologico-Anatom. Institute of St. Petersburg, as having been derived from the examination of one hundred hearts.

1. Simple atrophy is never developed as the only morbid condition. It is unattended by a morbid condition of the cardiac bloodvessels.

2. Neither the absolute or relative weight of the heart, thickness of its walls, nor their reduced circumference can be received as a certain indication of the presence of atrophy of the organ.

3. The brown atrophy of the heart, so-called from a morbid change in the colouring matter of the muscular tissue, is a common accompaniment of all diseases attended with great emaciation.

4. Fatty degeneration of the heart (fatty infiltration) occurs chiefly in persons who have a large development of the subcutaneous adipose tissue; the infiltration is often to such an extent as to prove troublesome.

5. Fatty degeneration of the heart occurs as an acute or a chronic affection. It is observed more frequently on the right than on the left side of the organ. In some cases the entire substance of the walls of the ventricle are affected, in others only a portion. In the chronic form there is always atheromatous degeneration of the cardiac bloodvessels. The *arcus senilis* is never met with in cases of fatty degeneration of the heart.—*Centralblatt f. d. Medicinisch. Wissenschaften*, Aug. 1868. D. F. C.

35. *Additions to Pathology of the Vascular and Pulmonary Systems.*—Dr. Charles R. Francis, in an interesting paper in the *Indian Medical Gazette*, points to fatty degeneration of the heart as a great source of mortality in India. Sometimes it is a cause of death *per se* of awful suddenness, but it may also be the determining cause of death after operation and in the course of (otherwise not mortal) disease. It affects the private soldier more than the officer, because, although both may eat too much, drink too much alcohol, and sleep too much without taking exercise habitually, yet the officer at times gets off to the hills, burns off his superfluous carbon, and exercises his muscular tissue. One great cause Dr. Francis believes to be diminished function of the lungs. That there is diminished function of the lungs in hot climates admits, he says, of remarkable